

CLAIMS

1. A composition comprising a mixture of four deoxynucleotide triphosphates and at least one dideoxynucleotide triphosphate corresponding to one of the four deoxynucleotide triphosphates, wherein the dideoxynucleotide triphosphate is present in a mole ratio to the corresponding deoxynucleotide triphosphate of from 1:50 to 1:500, said composition further comprising a thermally stable polymerase enzyme which incorporates dideoxynucleotides into an extending nucleic acid polymer at a rate which is no less than 0.4 times the rate of incorporation of deoxynucleotides.

2. The composition according to claim 1, wherein the mole ratio is from 1:100 to 1:300.

3. A kit for detection of a target microorganism comprising, in packaged combination,

(a) a pair of primers which bind to the sense and antisense strands, respectively, and flank a selected region within the genome target microorganism; and

(b) a mixture of four deoxynucleotide triphosphates and at least dideoxynucleotide triphosphate corresponding to one of the four deoxynucleotide triphosphates, wherein the dideoxynucleotide triphosphate is present in a mole ratio to the corresponding deoxynucleotide triphosphate of from 1:50 to 1:1000.

(c) a polymerase enzyme which incorporates dideoxynucleotides into an extending nucleic acid polymer at a rate which is no less than 0.4 times the rate of incorporation of deoxynucleotides.

4. The kit according to claim 3, wherein the mole ratio is from 1:100 to 1:500.

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